COLLIER COUNTY HELICOPTER OPERATIONS MEDFLIGHT

Welcome! Landing Zone (LZ) Training





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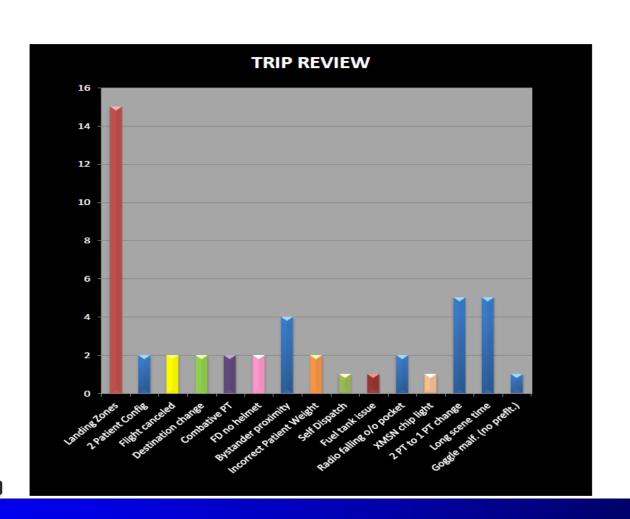
Training Syllabus

- Importance
 - Why is This Important?
 - Landing Zone Commander
 - Night Pre-Designated Landing Zone Program
- Choosing Landing Zone
 - LZ Procedures
 - Obstructions
 - Surface
 - Landing Zone Setup
- Flight Planning
 - Route of Flight
 - Weather
 - Risk Assessment
 - 2-Patient Configuration
 - Special Concerns
- Approach/Departure Phases
 - Ground Operations
- Emergency Shut-Down
- Night Operations
- General Safety Rules

MEDFLIGHT

Importance

Formalized Post-Flight Debrief -Analysis-





SAFETY IS NOT AN ACCIDENT

Although landing a Helicopter at an emergency scene may appear routine, it is a highly demanding task intensive maneuver. People have and will continue to be injured during this critical type of landing. Our goal, with **your help**, is to continue our outstanding safety record at Collier County MedFlight.

COLLIER COUNTY HELICOPTER OPERATIONS MEDFLIGHT

Importance

CHP Helicopter Crewmember Critically Injured.
Flight Officer/Paramedic Tony Stanley was struck by a main rotor blade during a rescue....July 9, 2012





A medic for the Arizona
Department of Public Safety was killed in Sedona, Ariz., after he was struck by the rotor blade of a rescue helicopter....October 15, 2008



LZ COMMANDER

SPECIFICALLY DEDICATED TO HELICOPTER THROUGHOUT ENTIRE OPERATION

- Landing zone briefing and additional radio communication if necessary
- Tasked with scene security before during and after landing zone operations
 - If available a tail guard should also be utilized while aircraft is on scene.



MEDFLIGHT

Importance

Night Pre-DESIGNATED LZs

CCHO MEDFLIGHT - DESIGNATED LANDING ZONES

DURING <u>DAYLIGHT HOURS</u>, MEDFLIGHT MAY BE DISPATCHED TO ANY LOCATION MEETING ESTABLISHED LANDING ZONE CRITERIA: 100X100, FREE OF OBSTACLES AND HAZARDS

*ALL OF 1-75 IS CONSIDERED A DESIGNATED LANDING ZONE
*ALL LANDING ZONES DESIGNATED FOR NIGHT ARE ALSO SUITABLE FOR DAY OPERATIONS 2/1/3/2015

	*ALL LANDING ZONES DESIGNATED FOR <u>NIGHT</u> ARE ALSO SUITABLE FOR <u>DAY</u> OPERATIONS					
FIRE ZONE	ZON E	CCSO DIST.	ID	DAY / NIGHT	GEOGRAPHIC LOCATION	GPS COORDINATES
NCFR	10	D4	ESEL	NIGHT2	ESTATES ELEMENTARY SCHOOL (SPORTS FIELD SE OF BLDG)	26 20.37 / 081 32.8
NCFR	43	D1	FBCH	NIGHT	FIRST BAPTIST CHURCH / VANDERBILT DR (8 OF BLDG)	26 19.43 / 081 49.0
NCFR	10	D4	EGEN	NIGHT	E's COUNTRY STORE (FIELD 8 OF STORE)	26 17,47 / 081 35.6
NCFR	42	D1	NCHNE	NIGHT	NCH-NE HOSPITAL (BELLAIRE BAY DR. N OF HOSPITAL)	26 16.65 / 081 41.3
NCFR	44	D1	NCHN	NIGHT	NORTH COLLIER HOSPITAL (NEWHOSPITAL HELIPAD)	26 16.44 / 081 47.2
NCFR	44	D1	CREE	NIGHT	CREEKSIDE & GOODLETTE-FRANK (FIELD BY ARTHREX BLDG)	26 16.19 / 081 47.4
NCFR	10	D4	CPMS	NIGHT	CYPRESS PALM MIDDLE SCHOOL (SPORTS FIELD E OF BLDG)	26 15.98 / 081 31.5
NCFR	42	D1	WATE	NIGHT	WATER PARK ON LIVINGSTON RD (SPORTS FIELD E OF PARK)	26 15.85 / 081 44.7
NCFR	44	D1	ST44	NIGHT	FIRE STATION 44 (FIELD W STATION)	26 15.03 / 081 48.4
NCFR	46	D1	FBAC	NIGHT	FIRST BAPTIST ACADEMY (FIELD E OF ENTRANCE)	26 13.97 / 081 45.3
NCFR	46	D2	PRPR	NIGHT	PHYSICIANS REGIONAL PINE RIDGE	26 12.86 / 081 43.9
NCFR	40	D1	GLPR	NIGHT	GOODLETTE & PINE RIDGE (FIELD W OF SWEETBAY)	26 12.83 / 081 47.4
NCFR	40	NPD	SGEL	NIGHT	SEAGATE ELEMENTARY SCHOOL (SPORTS FIELD S OF BLDG)	26 12.55 / 081 48.3
NCFR	24	D1	PAEL	NIGHT	POINCIANA ELEMENTARY SCHOOL (SPORTS FIELD W/ BLDG)	26 10.89 / 081 46.2
CNFD	24	D1	PARK	NIGHT	HWY 41 & PARK SHORE DR (OPEN FIELD IN OF PARK SHORE DR)	26 11.68 / 081 48.0
CNFD	1	NPD	FLEI	NIGHT	FLEISCHMANN PARK (FOOTBALL/SOCCER FIELD)	26 09.99 / 081 48.3
	1	NPD	NCH		NAPLES COMMUNITY HOSPITAL	
CNFD	1	NPD		NIGHT		26 09.06 / 081 47.8
CNFD			GVMI	NIGHT	GULFVIEW MIDDLE SCHOOL (SPORTS FIELD)	26 08.65 / 081 47.8
	1	NPD	STAN	NIGHT	SAINT ANN SCHOOL (SPORTS FIELD)	26 08.24 / 081 47.9
GNFR	71	D2	ST71	DAY ONLY!	FIRE STATION 71	26 13.60 / 081 38.0
GNFR	71	D2	BCEL	NIGHT	BIG CYPRESS ELEMENTARY SCHOOL (SPORTS FIELD)	26 13.57 / 081 40.3
GNFR	71	D4	PMEL	NIGHT	PALMETTO ELEMENTARY SCHOOL (FIELD AT ENTRANCE)	26 12.72 / 081 32.8
GNFR	70	D2	RITA	NIGHT	RITA EATON COMMUNITY PARK	26 11.67 / 081 42.7
GNFR	70	D2	GGMI	NIGHT	GOLDEN GATE MIDDLE SCHOOL (SPORTS FIELD SE OF BLDG)	26 10.59 / 081 42.7
GNFR	25	D7	MM90	NIGHT	I-75 MILE MARKER 901	26 09.10 / 081 30.2
GNFR	24	NPD	MHQ	NIGHT	MEDFLIGHT HQ	26 08.86 / 081 46.6
GNFR	75	D3	CPEL	NIGHT	CALUSA PARK ELEMENTARY SCHOOL (SPORTS FIELD)	26 08.61 / 081 42.9
GNFR	22	D3	ALEL	NIGHT	AVALON ELEMENTARY SCHOOL (SOCCER FIELD)	26 06.45 / 081 45.8
GNFR	25	D3	PRCB	NIGHT	PHYSICIANS REGIONAL COLLIER BLVD	26 06.39 / 081 41.1
GNFR	23	D3	ELCP	NIGHT	EAGLE LAKES COMMUNITY PARK (SE SOCCER FIELD)	26 04.39 / 081 42.9
GNFR	23	D3	MAMI	NIGHT	MANATEE MIDDLE SCHOOL (SPORTS FIELD SE CORNER)	26 02.70 / 081 40.6
ICFD	90	D3	FIDD	NIGHT	FIDDLERS CREEK (FIELD N OF ENTRANCE)	26 01.35 / 081 42.0
ICFD	90	D3	CAPR	NIGHT	ISLE OF CAPRI FIRE STATION	25 59.06 / 081 43.6
IFFD	31	D8	SOCC	NIGHT	SOCCER FIELD (8R 29 AND JOHNSON RD.)	26 28.32 / 081 26.1
IFFD	31	D8	CORK	NIGHT	CORKSCREW RD. (BEND EAST TO NORTH)	26 27.10 / 081 33.8
IFFD	31	D8	IORC	NIGHT	IMMOKALEE OUTPATIENT REHAB CENTER (FIELD W BLDG)	26 26.66 / 081 26.0
IFFD	31	D8	ST31	NIGHT	IMMOKALEE EMS STATION 31 (PARK IN FRONT OF BASE)	26 26.04 / 081 26.9
IFFD	30	D8	ST30	NIGHT	IMMOKALEE EMS STATION 30	26 25.01 / 081.24.9
IFFD	30	D4	CAKE	NIGHT	CAMP KEAIS RD. & IMMOKALEE RD (FIELD SE OF INTERSEC)	26 22.47 / 081 24.9
IFFD	32	D4	AVEM	NIGHT	AVE MARIA (SOCCER FIELD N CORNER)	26 20.45 / 081 26.4
IFFD	32	D4	ARTH	NIGHT	ARTHREX BLDG (OIL WELL RD)	26 17.76 / 081 26.6
IFFD	30	D8	82LA1	NIGHT	SR 82 LANDING AREA1 .25 MILE	26 29 31 / 081 26.8
IFFD	30	D8	82LA2	NIGHT	SR 82 LANDING AREA2 .25 MILE	26 29.79 / 081 28.6
IFFD	30	D8	82LA2	NIGHT	SR 82 LANDING AREA3 .25 MILE	26 30.06 / 081 29.7
MIFD	50	D3	NCCB		NAPLES CRUISE CLUB	26 00.91 / 081 25.7
MIFD	50	D3	KMKY	DAY ONLY!	MARCO ISLAND AIRPORT	26 00.91 / 081 45.7
MIFD				NIGHT		
	50	D7	KEEW	DAY ONLY!	KEEWAYDIN ISLAND	25 59.50 / 081 45.1
MIFD	50	MIPD	MARC	NIGHT	MARCO ISLAND URGENT CARE	25 56.31 / 081 43.1
MIFD	50	MIPD	CAXA	DAY ONLY!	CAXAMBAS ISLAND	25 50.67 / 081 40.7
OCFR	60	D7	MM50	NIGHT	I-75 MILE MARKER 501	26 10.40 / 080 52.8
OCFR	60	D7	ST63	NIGHT	STATION 63	26 10.02 / 081 04.4
OCFR	60	D7	MM70	NIGHT	I-75 MILE MARKER 701	26 10.00 / 081 12.6
OCFR	60	D7	MM80	NIGHT	I-75 MILE MARKER 801	26 09.20 / 081 20.6
OCFR	60	D3	PORT	NIGHT	PORT OF ISLES (FIELDS W OF BRIDGE)	25 57.50 / 081 30.8
OCFR	60	D7	CARN	DAY ONLY!	CARNESTOWN	25 54.41 / 081 21.9
OCFR	60	D7	OCHO	NIGHT	OCHOPEE FORESTRY HQ	25 53.99 / 081 19.2
OCFR	60	D7	OASI	NIGHT	OASIS RANGER STATION	25 51.45 / 081 02.0
OCFR	60	D7	EVER	NIGHT	EVERGLADES AIRPORT (X01)	25 50.60 / 081 23.4
OCFR	60	D7	LULU	DAY ONLY!	CAMP LULU KEY	25 50.11 / 081 30.5
OCFR	60	D7	RABB	DAY ONLY!	RABBIT KEY	25 45.09 / 081 22.6
OCFR	60	D7	PAVI	DAY ONLY!	PAVILLION KEY	25 41.88 / 081 21.3

- •What about during day?
- •Found in every truck and in CC protocols
- •An updated landing zone list is always available at colliergov.net/MedFlight

MEDFLIGHT

Choosing A Landing Zone

- During daylight operations, the LZ must meet the 100'x100' criteria clear of obstructions.
- During night operations, the use of the Pre-Designated Landing Zones is require
 - Always reference the 4 letter identifier identified as "ID" when requesting MedFlight
- Scene Calls- brief description of location i.e intersection or GPS coordinates in "Degrees decimal minutes" format is ideal.
- Review your zone to ensure you know where your night pre-designated
 LZ's are located and named

CCHO MEDFLIGHT - DESIGNATED LANDING ZONES

DURING <u>DAYLIGHT HOURS</u>, MEDFLIGHT MAY BE DISPATCHED TO ANY LOCATION MEETING ESTABLISHED LANDING ZONE CRITERIA: 100X100, FREE OF OBSTACLES AND HAZARDS

¹ALL OF I-75 IS CONSIDERED A DESIGNATED LANDING ZONE

²ALL LANDING ZONES DESIGNATED FOR <u>NIGHT</u> ARE ALSO SUITABLE FOR <u>DAY</u> OPERATIONS

8/23/2016

FIRE ZONE	EMS ZONE	CCSO DIST.	ID	DAY / NIGHT	GEOGRAPHIC LOCATION	GPS COORDINATES
NCFR	10	D4	ESEL	NIGHT ²	ESTATES ELEMENTARY SCHOOL (SPORTS FIELD SE OF BLDG)	26 20.37 / 081 32.85
NCFR	43	D1	roof	NIGHT	FIRST BAPTIST CHURCH / VANDERBILT DR (S OF BLDG)	26 19.43 / 081 49.08
NCFR	10	D4	EGEN	NIGHT	E'S COUNTRY STORE (FIELD S OF STORE)	26 17.47 / 081 35.67
NCFR	42	D1	NCHNE	NIGHT	NCH-NE HOSPITAL (BELLAIRE BAY DR. N OF HOSPITAL)	26 16.65 / 081 41.30
NCFR	44	D1	NCHN	NIGHT	NORTH COLLIER HOSPITAL (NEW HOSPITAL HELIPAD)	26 16.44 / 081 47.28
NCER	10	DΔ	CPMS	NIGHT	CYPRESS PALM MIDDLE SCHOOL (SPORTS FIELD F OF RIDG)	26 15 98 / 081 31 57

MEDFLIGHT

Choosing A Landing Zone

OBSTRUCTIONS

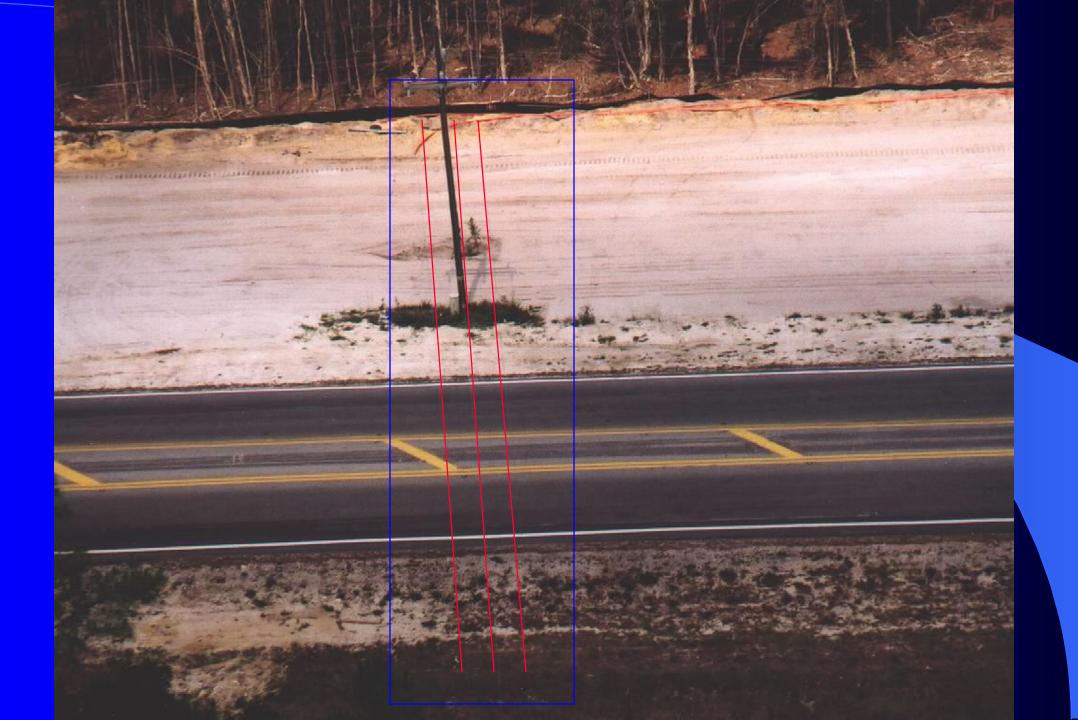
- Wires
- Trees
- Light Poles
- Buildings
- Vehicles
- Tree Stumps
- Rocks
- Construction Debris

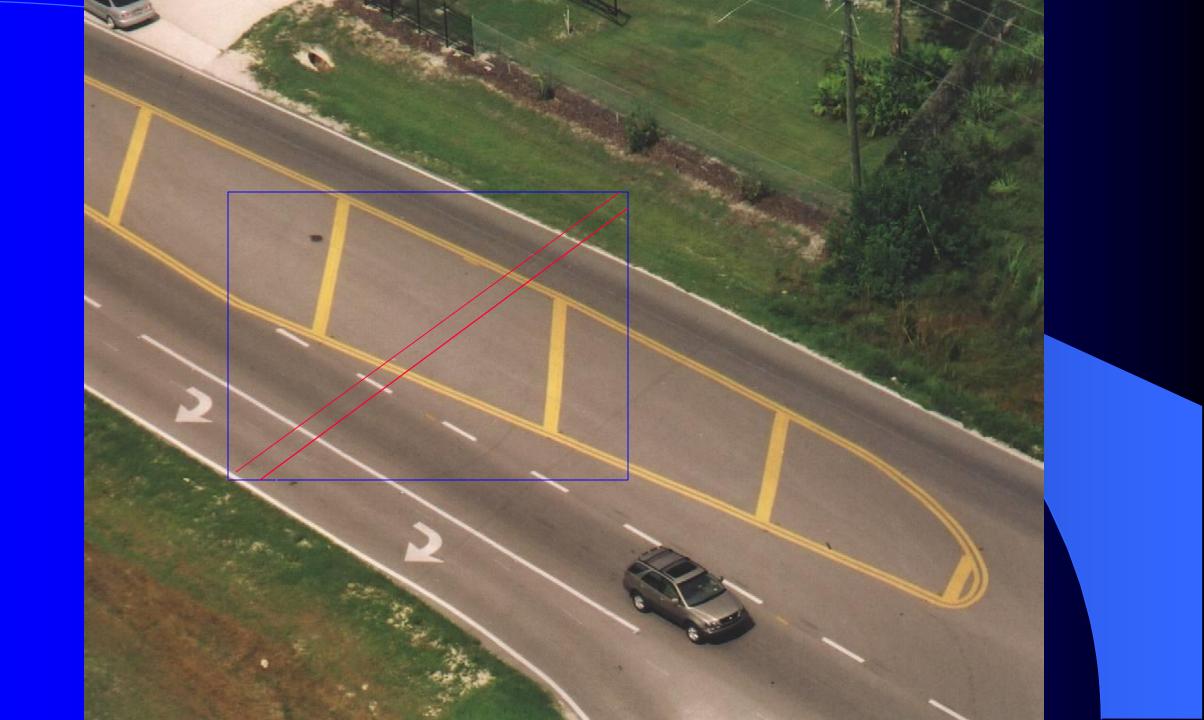


COLLIER COUNTY HELICOPTER OPERATIONS MEDFLIGHT Choosing A Landing Zone

WIRES

- Nearly invisible from the sky
- Look for wires crossing the LZ
- Visually confirm the direction of wires coming off every pole in the area
- Inform the MedFlight crew during Landing Zone briefing







Crosh Powerlines Empuriabrava



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Choosing A Landing Zone

SURFACE TYPES

- BEST Concrete
- SECOND Blacktop
- THIRD Sod or Grass
- FOURTH Compacted earth lightly wetted
- Last choice is sand, dirt or brush area

COLLIER COUNTY HELICOPTER OPERATIONS MEDFLIGHT

Choosing A Landing Zone

AREA

- Avoid sandy dusty areas (unless you can wet the surface before arrival)
- Should be relatively level Minimal slope
- Clear area
 - Clear of debris
 - Large rocks
 - Posts & Signs
 - Stumps
 - Vehicles
 - People
 - Animals
 - Hazards

SLOPES

Incorrect





Correct

COLLIER COUNTY HELICOPTER OPERATIONS MEDFLIGHT Choosing A Landing Zone

Brown Out

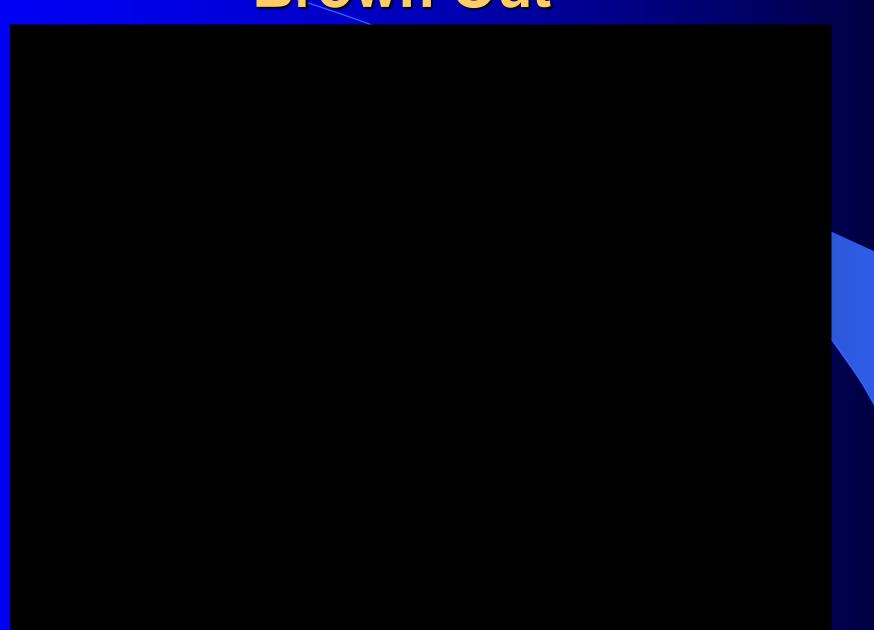
 Dry areas present a potential hazard for "brown out." A condition which severely restricts visibility during the critical landing phase of flight due to blowing dust

MEDFLIGHT
Choosing A Landing Zone

Brown Out



Brown Out





APPROACH AND DEPARTURE PATHS

- Obstacles and patient treatment area
- Wind speed and direction
- Landing and Taking off into the wind.
- Helicopter should land downwind of patient care area.
- Sufficient distance from LZ to accident scene to avoid downwash

MEDFLIGHT

Setup Landing Zone

LZ SET-UP

- Set markers (5) on the four corners and 1 marker on the upwind side of the landing area
- Always keep the landing area clear of people/vehicles
- Do not point spot lights at the cockpit of the aircraft
- 100x100 is ideal
- 80x80 is minimum for daytime landings



MEDFLIGHT Flight Planning



MEDFLIGHT Flight Planning

Why Does It Take So Long?

•#1 Question we get is why does it take so long to launch?

What It Takes To Launch MedFlight

Tones

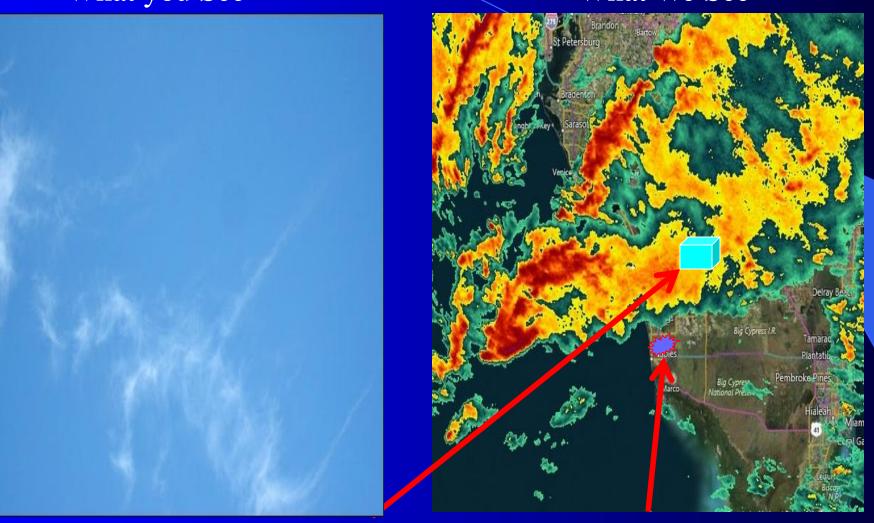
- •Flight Medics Actions
 - •Call to find out LZ from Control/Scene CDR (1-5 min.)
 - •Call for patient weight
 - •Pull helicopter out of hangar (2 min.)
 - •Perform walk around and plug-in APU (1 min.)
- Pilot
 - •Evaluates weather for departure point, LZ, and hospital (3-5 min.)
 - •Complete Weight & Balance calculations (2 min.)
 - •Complete Risk Assessment (30 sec.)
 - •Complete route planning tasks for all 3 legs of flight record results (2 min.)
 - •Perform walk around and brief Flight Medics (1 min.)
- •Both
 - •Starting procedures and launch aircraft (2-3 min.)



MEDFLIGHT Flight Planning

What you See

What We See



Hospital

You

COLLIER COUNTY HELICOPTER OPERATIONS MEDFLIGHT Weather / Helicopter Shopping

It is vitally important that the aircraft requestor NOT attempt to call multiple helicopter operators when the first program declines the flight due to weather.

The industry is plagued with "Chopper Shopping" crashes caused be the lack of information from one program to the next.

LZ Commanders have the responsibility to not delay transport of a patient in an attempt to "find a helicopter".

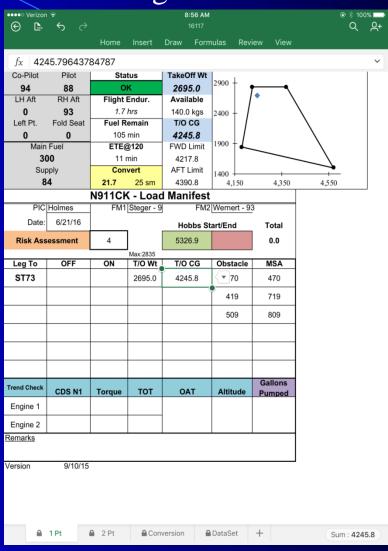
If a program cancels due to weather DO NOT delay patient transport. If you call for a second helicopter you MUST inform the second operator that the first choice refused the flight due to weather.

MEDFLIGHT Flight Planning

Route Planning



Weight & Balance





MEDFLIGHT Flight Planning

Risk Form

HAA Helicopter

Dynamic Score

Day Flight	2	0		
NVGs In Use	3	O		
Night Flight/No NVGs	5	0		
Cross Country	3	0		
-	0	0		
Scene Flight	2	0		
Unimproved Pre-Designated LZ	2	0		
Hospital Pad / Airport	1	O		
-	0	0		
Wx 1000 to 3000 / >3<5 vis / MVFR	2			
Wx <1000 / <3 / IFR	5	0		
Wx Abort by Other Operator	5	o		
Wx Turndown by Other Operator	4			
Temp/Dewpoint Within 4 Degrees C & Less Than 5kts Wind	2			
Deteriorating Wx Trend	2	0		
Convective Activity Along Route	1	0		
High Winds (>20kts) or Gust Spread (>15kts)				
	D			

MEDFLIGHT
Flight Planning

2-Patient Configuration

- Preferred Prior to leaving MHQ
- •Takes approximately 3 minutes
- •If required on-scene, helicopter will be shut down for pilot assist (Cold Load)
- •May require additional personnel to assist in loading patients







Arrival & Departure

MEDFLIGHT Arrival & Departure

LZ Briefing

- All communication for Landing Zone information will take place on PS Wide 1 channel
- Contact will be initiated by the MedFlight crew after launch
 - Estimated time to Landing Zone
 - Request Landing Zone briefing
- Your landing zone briefing should consist of:
 - Your location in the landing zone
 - Known obstacles and hazards
 - Approximate wind speed and direction
 - Specific instruction to identify exact location for the helicopter

Sterile Cockpit Procedures: FAA regulation restricts flight crews from non essential communications during critical phases of flight.

We are not ignoring you



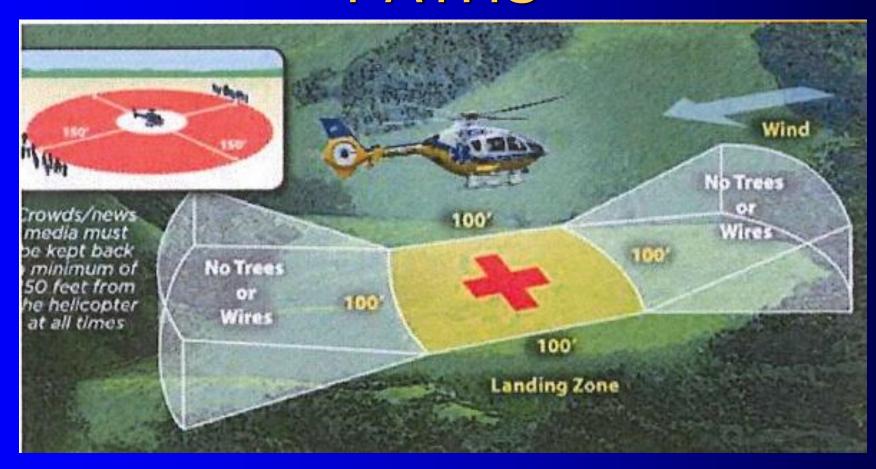
Engine Failure on Final



MEDFLIGHT

Arrival & Departure

APPROACH AND DEPARTURE PATHS





Landing Zone Brief

- Obstacles
- Wind Direction and Speed
- •Describe where you want the aircraft to land

Why is it important to tell the pilot wind information?



COLLIER COUNTY HELICOPTER OPERATIONS MEDFLIGHT

Arrival & Departure

LANDING PHASE

- Maintain radio contact with the helicopter on PS Wide 1
- Maintain LZ security 2 minutes after take off
- In case of an unexpected hazard communicate immediately

"ABORT, ABORT, ABORT"



CAUTION

- Rotor downwash can blow dirt, debris, and gravel with enough force to cause personal injury or property damage.
- Helmet with eye protection is essential



GROUND OPERATIONS

- Never approach aircraft unless requested by Flight crew
- Do not take patients to Flight Medics let them come to you.
- Never approach the tail rotor!!
- Never open or close any door of the helicopter. (you break it, you buy it!)



COLLIER COUNTY HELICOPTER OPERATIONS MEDFLIGHT Arrival & Departure CAUTION

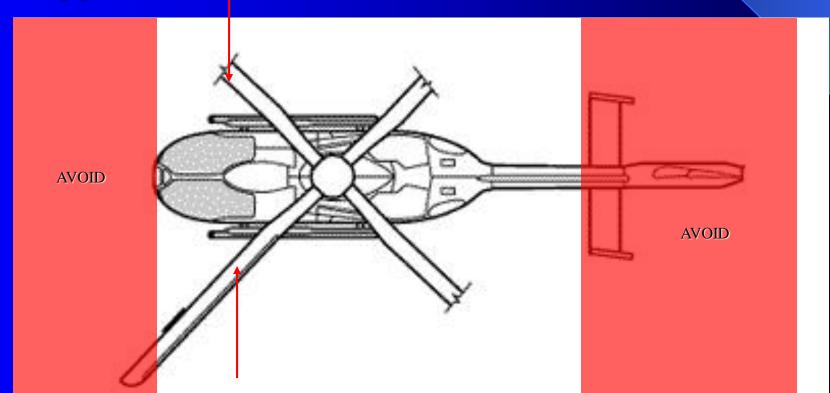
Operations in and around the aircraft are conducted under stressful and noisy conditions; approaching the aircraft without specific instruction is **NOT** permissible.



COLLIER COUNTY HELICOPTER OPERATIONS MEDFLIGHT Arrival & Departure

CAUTION

 If you are directed to approach the aircraft, only approach from the sides.



COLLIER COUNTY HELICOPTER OPERATIONS MEDFLIGHT Arrival & Departure

DEPARTURE

- You will hear engine RPM increase prior to aircraft lifting.
- LZ Commander should move to pilots front right side of Aircraft. Do not stand directly in front of aircraft.
- Maintain radio contact on PS Wide 1 as helicopter lifts off.
- If you observe a safety concern: Immediately announce ABORT and use these hand signals

Remain on PS Wide 1 and maintain LZ security for 2 min.
 in case aircraft has to return for emergency landing

COLLIER COUNTY HELICOPTER OPERATIONS MEDFLIGHT Emergency Engine Shut-Down

In case of a crash at or near the LZ it may become necessary for the LZ Commander to perform an emergency engine shut-down of the helicopter.

Follow these steps on the following slides:

- 1. Pull up on each guard
- 2. Press the button on ea.
- 3. Pull open each red guard
- 4. Pull out and down the yellow switch
- 5. Pull out and to OFF



COLLIER COUNTY HELICOPTER OPERATIONS MEDFLIGHT

Emergency Engine Shut-Down

Activate Emergency Locator Transmitter (ELT)

The ELT, when activated, sends a signal to the FAA that an aircraft has experienced a hard landing. It should activate automatically, however, in some situations it may be activated manually.

- On the dashboard flip the red switch up to activate A red light will illuminate
- 2. Another switch is located on the ELT itself but it very hard to reach as it is under the flight controls





COLLIER COUNTY HELICOPTER OPERATIONS

MEDFLIGHT

Night Operations





Night Operations





NIGHT OPERATIONS

- If possible the LZ should be clearly identified by strobe lights or ground vehicles
- DO NOT point lights in the direction of the landing zone
- Clearly mark and/or discuss hazards with pilot / helicopter crew prior to landing



Night Operations

LZ SET-UP

 Set markers (5) on the four corners and 1 marker on the upwind side of the landing area

 Always keep the landing area clear of people/vehicles

Assure that lights are not pointed at the aircraft

100x100 feet is minimum

COLLIER COUNTY HELICOPTER OPERATIONS MEDFLIGHT Safety Rules

GENERAL SAFETY RULES

- Never approach or allow anyone to approach the aircraft.
- No smoking or open flame within 100 feet
- No hats or unsecured articles
- Never run or hurry
- No vehicle movement near aircraft
- Keep your head/eyes up
- Notify pilot/flight crew if something is wrong

Thank You!



Questions / Comments